Amendments to the Claims:

1 - 16. (canceled)

17. (previously presented) An internal combustion rotary engine comprising

an external rotor mounted for rotation about a first axis and

an internal rotor within the external rotor, mounted for rotation about a second axis offset from the first axis,

said rotors being mutually restrained and synchronized by synchronization gear wheels disposed in a common housing so that the rotors rotate in the same direction and at the same rotational speed on their respective axes,

wherein the external rotor contains a timing system, intake and discharge valves, and spark plugs, thereby functioning as a head.

18. (previously presented) The rotary engine according to claim 17, further comprising means to deviate gases to a tangential direction in the discharge valves, thereby generating a torque on the rotors so as to cause a second thrust level on the axis.

19. (previously presented) The rotary engine according to claim 18, further comprising a nozzle immediately downstream of each discharge valve, adapted to generate a further third level tangential thrust by rapid and additional internal expansion of overheated gases deviated in the discharge valve, so as to produce a further torque on the rotor system.

20. (previously presented) The rotary engine according to claim 17, wherein the internal rotor contains an injection pump and fuel injectors.

21. (previously presented) The rotary engine according to claim 17, wherein the intake and discharge valves are rotatable and undergo two motions, including a first small axial motion, adapted to unseat the valve and a second rotary motion adapted to alternately put the open side and the closed side in front of the intake and discharge ports.

22. (previously presented) The rotary engine according to claim 21, wherein the axis of rotation of the intake and discharge valves is parallel to the rotor axes.

23. (previously presented) The rotary engine according to claim 21, wherein the intake valve has a frustoconical hollow shape with an open bottom and has a longitudinal slot having a width and length equal to that of the discharge port of the chamber.

24. (previously presented) The rotary engine according the claim 23, wherein the discharge valve has a shape like the intake valve but with a closed bottom and, in a portion in contact with the discharge port of the combustion chamber, has a longitudinal cavity with a parabolic section.

25. (previously presented) The rotary engine according to claim 21, wherein said intake and discharge valves are actuated jointly by a camshaft, each valve being actuated by three cams, including a central cam moving the valve in an axial direction to unseat it from a contact and sealing surface of the rotor intake or discharge port, and a pair of side cams acting shortly thereafter on a valve driving member to cause the unseated valve to rotate in the opening and closing direction and immediately thereafter the central cam terminates its action and the valve is pushed by a return spring into contact with the discharge or intake port to ensure its tightness.

26. (currently amended) The rotary engine according to claim 17, further comprising ~~four mobile elements mounted on the internal rotor, said elements comprising~~ a planet ~~member mounted on the internal rotor, which is reciprocated and pushed outwards by a central spring,~~ and a satellite member of a curved shape, fixed at the end of the planet and oscillating around its axis, adapted to act as a compression ring continuously fitting to the inner surface of the external rotor.

27. (previously presented) The rotary engine according to claim 26, further comprising a stationary seal between the internal and external rotors, said seal comprising compression rings mounted on the curved convex faces of the internal rotor and on the planet in addition to the satellite rubbing contact.

28. (previously presented) The rotary engine according to claim 17, wherein engine cooling is obtained through a forced circulation generated by a system of fins formed in the body of the external rotor, forcing air circulation inside the engine and to the radiator, as well as by cool lubricating oil returning from the radiator.